

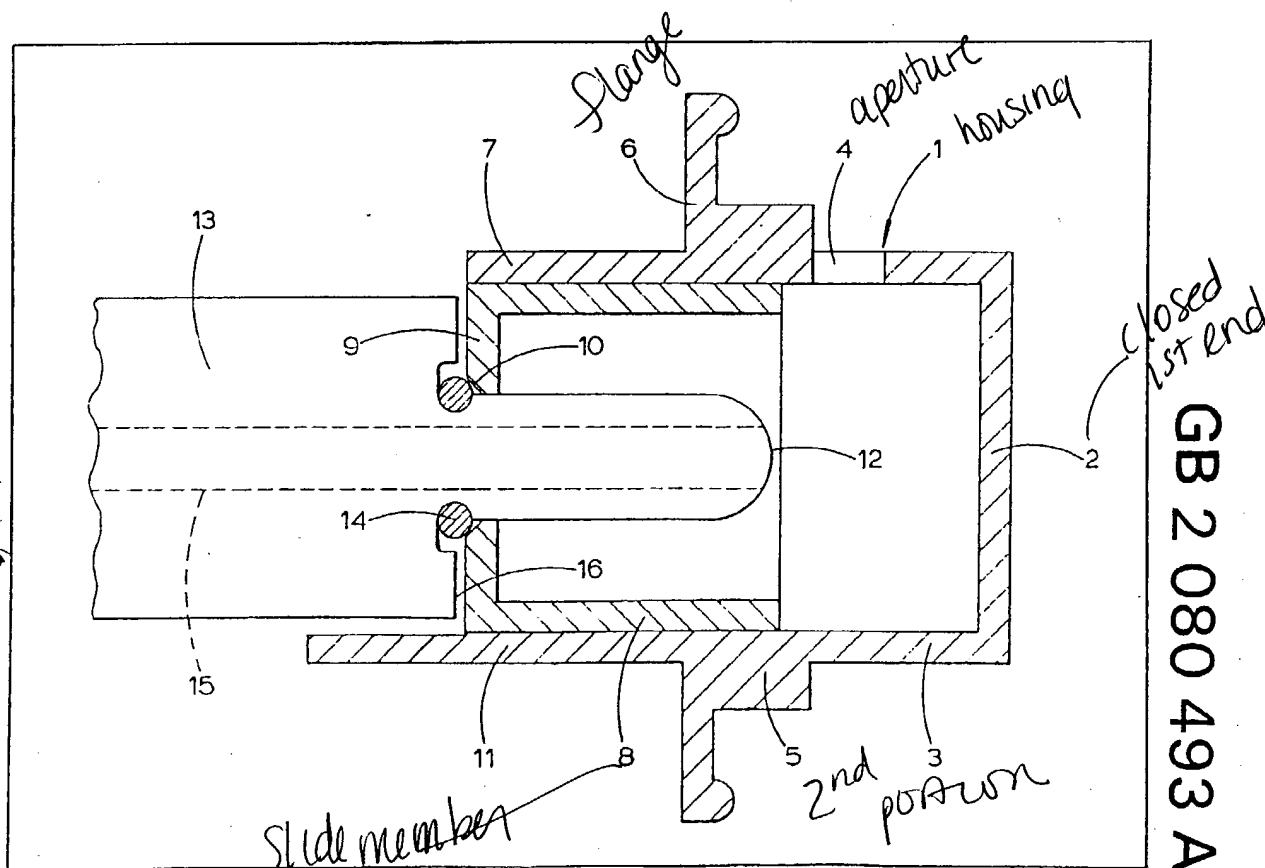
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(54) Balloon inflation valve

(57) A balloon inflation valve has a housing (1) closed at a first end (2) and open at a second end. The valve has successively along its length, considered in a direction from the first end to the second end, a portion (3) of a first diameter with an aperture (4) therethrough communicating the

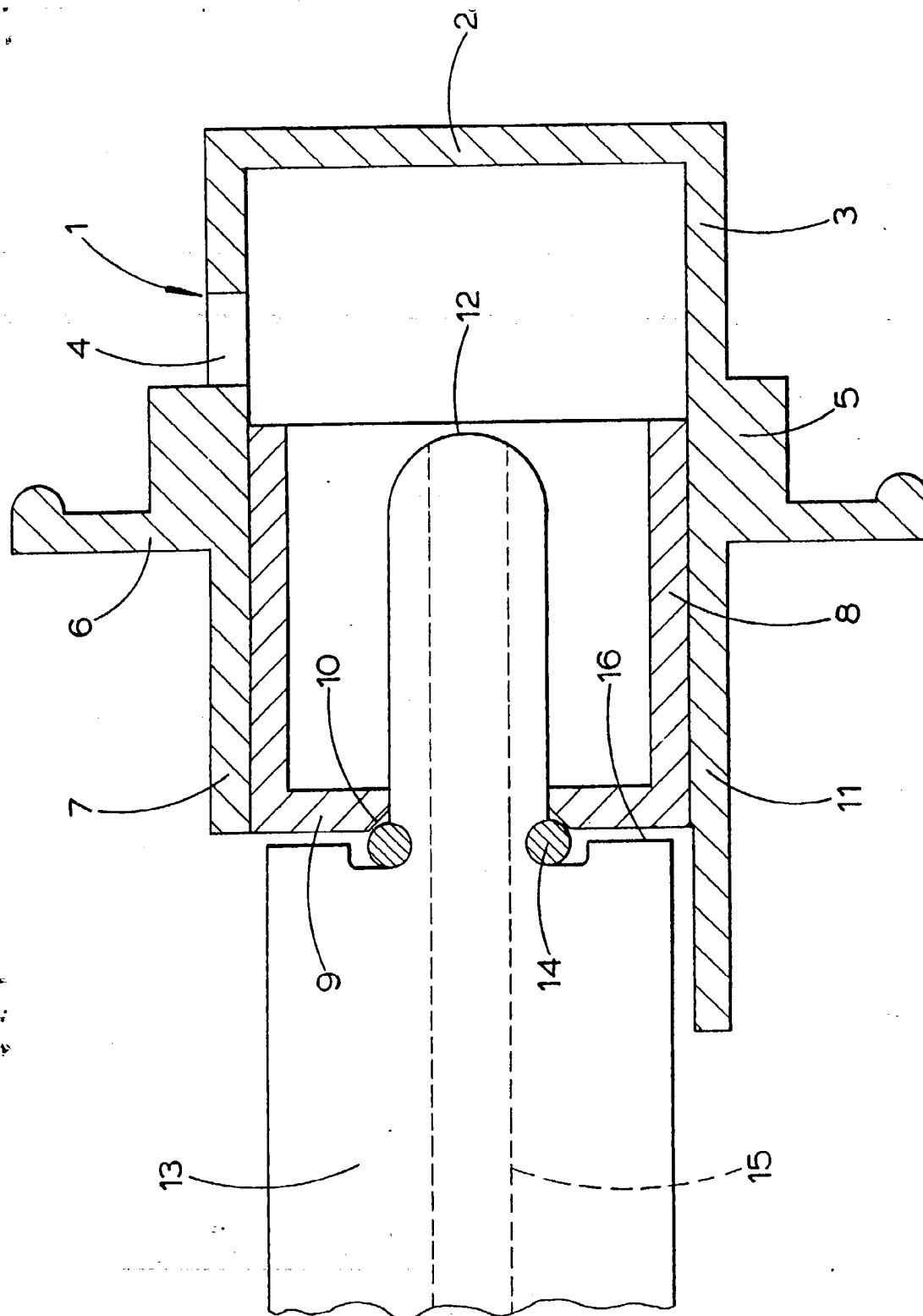
interior thereof to the exterior thereof, a second portion (5) of a second diameter greater than the first diameter, and a flange portion (6) of a third diameter greater than the second diameter. A hollow slide member (8) is slidably received in the housing (1) for movement between a position in which it closes the aperture (4) and a position in which the aperture (4) is open.



The drawing originally filed was informal and the print here reproduced is taken from a later filed formal copy.

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SPECIFICATION

Inflation valve

This invention relates to an inflation valve, for use, for example, in the inflation of a balloon.

5 According to the present invention there is provided an inflation valve comprising a housing closed at a first end and open at a second end and having successively along its length, considered in a direction from the first end to the second end, a
10 portion of a first diameter with an aperture therethrough communicating the interior thereof to the exterior thereof, and a flange portion of a diameter greater than the first diameter, and a hollow slide member slidably received in the
15 housing for movement between a position in which it closes the said aperture and a position in which the said aperture is open.

In a preferred embodiment of the invention there is provided an inflation valve comprising a
20 housing closed at a first end and open at a second end and having successively along its length, considered in a direction from the first end to the second end, a portion of a first diameter with an aperture therethrough communicating with the
25 interior thereof to the exterior thereof, a second portion of the second diameter greater than the first diameter, and a flange portion of a third diameter greater than the second diameter, and a hollow slide member slidably received in the
30 housing for movement between a position in which it closes the said aperture and a position in which the said aperture is open.

An embodiment of the invention is shown in the accompanying drawing which is a longitudinal
35 section.

The drawing shows a valve which comprises a housing 1 which is closed at one end by an end wall 2 and is open at the other end. The housing has a first portion 3 in which is formed an aperture
40 4 which communicates the interior of the housing to the exterior thereof. The housing further comprises a second portion 5 whose diameter is larger than that of the first portion 3. At the end of the portion 5 remote from the portion 3 there is formed a flange 6 whose diameter is greater than
45 that of the portion 5. At the open end of the housing is another portion 7 whose diameter is the same as that of the portion 3. A hollow slide member 8 is slidably received within the housing
50 1. The slide member 8 has an annular wall 9 formed at one end thereof, for a purpose which will be apparent from the following description. The annular wall 9 is bevelled, as indicated by
55 reference numeral 10.

For manufacturing reasons the housing 1 tapers slightly towards the closed end thereof, the angle of taper being about 1°. The slide member is
60 correspondingly tapered. This taper is advantageous in the context of the present invention since it means that as the slide member is moved towards the closed end of the housing the fit of the slide member 8 within the housing 1 becomes tighter. The housing is provided at its open end with a portion 11 to which a string can

65 be attached for use when flying the balloon.

The valve is preferably made of polypropylene, though other materials could be used instead.

In use of the valve the neck of a balloon which is to be inflated is engaged around the flange 6
70 with the main portion of the balloon extending on the right-hand side of the flange 6, as viewed in the drawing. The tip 12 of a nozzle 13 is then inserted into the slide member 8 until an O-ring 14 provided on the nozzle comes into gentle
75 engagement with the bevel 10 on the annular wall 9. The force of engagement, however, is not so great as to displace the slide member rightwardly. The nozzle 13 has a bore 15 which communicates with a source of a gas with which it is desired to
80 fill the balloon. Such a gas may, for example, be helium. The gas passes down the bore 15 into the interior of the housing 1 and thence through the aperture 4 into the balloon. When the balloon has been inflated to the desired extent the nozzle is
85 pushed rightwardly so that an annular end wall 16 thereof engages the outside of the wall 9 of the slide member 8. This causes the slide member 8 to move rightwardly until it reaches the end wall 2. By this stage the slide member 8 blocks the
90 aperture 4 and prevents gas escaping from the balloon. The nozzle is then removed, leaving the slide member in position against the end wall 2. Friction between the slide member and the housing is sufficient to keep the slide member in
95 this position.

CLAIMS

1. An inflation valve comprising a housing closed at a first end and open at a second end and having successively along its length, considered in
100 a direction from the first end to the second end, a portion of a first diameter with an aperture therethrough communicating the interior thereof to the exterior thereof, and a flange portion of a diameter greater than the first diameter, and a hollow slide member slidably received in the housing for movement between a position in which it closes the said aperture and a position in which the said aperture is open.

2. An inflation valve comprising a housing closed at a first end and open at a second end and having successively along its length, considered in a direction from the first end to the second end, a portion of a first diameter with an aperture therethrough communicating the interior thereof
110 to the exterior thereof, a second portion of a second diameter greater than the first diameter, and a flange portion of a third diameter greater than the second diameter, and a hollow slide member slidably received in the housing for movement between a position in which it closes the said aperture and a position in which the said aperture is open.

3. An inflation valve according to either preceding claim, which is provided adjacent its second end with a portion to which a string can be
125 attached.

4. An inflation valve according to any preceding

8. A connector as claimed in any one of claims 1 to 7, including a sheathed tube affixed to the body portion, the bore of said tube cooperating

with the bore of said body portion.

5 9. A connector substantially as described herein and as illustrated in the accompanying drawing.

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TITLE: Inflation valve for balloon - has
housing closed at one end with hollow slide to open or
close aperture

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BASIC-ABSTRACT:

The balloon inflation valve has a housing (1) closed at one end (2) and open at a second end. The valve has successively along its length, considered in a direction from the first end to the second, a portion (3) of a first diameter with an aperture (4) communicating the interior to the exterior.

It has a second portion (5) of a second diameter greater than the first diameter, and a flange (6) of a third diameter greater than the second. A hollow slide (8) is slidably received in the housing (1) for movement between a position in which it closes the aperture (4) and a position

in which the
aperture is open.

CHOSEN-DRAWING: Dwg.1

TITLE-TERMS: INFLATE VALVE BALLOON HOUSING CLOSE ONE END
HOLLOW SLIDE OPEN
CLOSE APERTURE

DERWENT-CLASS: Q66